

Abstract

An object of the present invention is to reduce a rise time required for stabilizing the vibration state of a vibrator and the scale of a circuit needed for the activation of a driving vibration in exciting the driving vibration in the vibrator. A driving vibration is excited in a vibrator 1 for outputting a detection signal generated based on the driving vibration and a physical value, and the physical value is measured based on the detection signal. The driving vibration is excited using a circuit 9A for self-excited vibration having a CR oscillator 5A to generate an oscillation loop together with the vibrator 1. An activating signal of rectangular wave is applied on the vibrator 1 using the CR oscillator 5A to start the driving vibration in the vibrator 1.